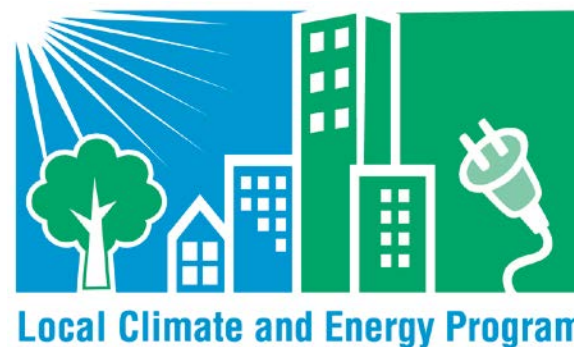


US EPA ARCHIVE DOCUMENT



# Financing Options for Your Clean Energy Programs

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# Financing Options for Your Clean Energy Programs



- A. Keys to Success**
- B. Key Elements of a Financing Program**
- C. Financing Options**
- D. More Information on Financing**



# Before We Start...



- This presentation is based on U.S. EPA's ***"Clean Energy Financing Programs: A Decision Guide for States and Communities"***  
[www.energystar.gov/ia/home\\_improvement/downloads/FinancingGuidebook.pdf](http://www.energystar.gov/ia/home_improvement/downloads/FinancingGuidebook.pdf)
- The focus here is on **Energy Efficiency (EE) and Renewable Energy (RE)**
  - Financing requires some method of repayment. Although many climate and energy programs can generate revenue or savings for repayment, the most common programs involve energy efficiency (EE) and renewable energy (RE).

# A. Keys to Success

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## 1. Learn from Successful Programs

- [www.energystar.gov/index.cfm?c=business.bus\\_internet\\_presentations](http://www.energystar.gov/index.cfm?c=business.bus_internet_presentations)
- [www.epa.gov/statelocalclimate/local/showcase/](http://www.epa.gov/statelocalclimate/local/showcase/)

## 2. Provide Low Monthly Payments

- A longer term has more impact than a lower interest rate

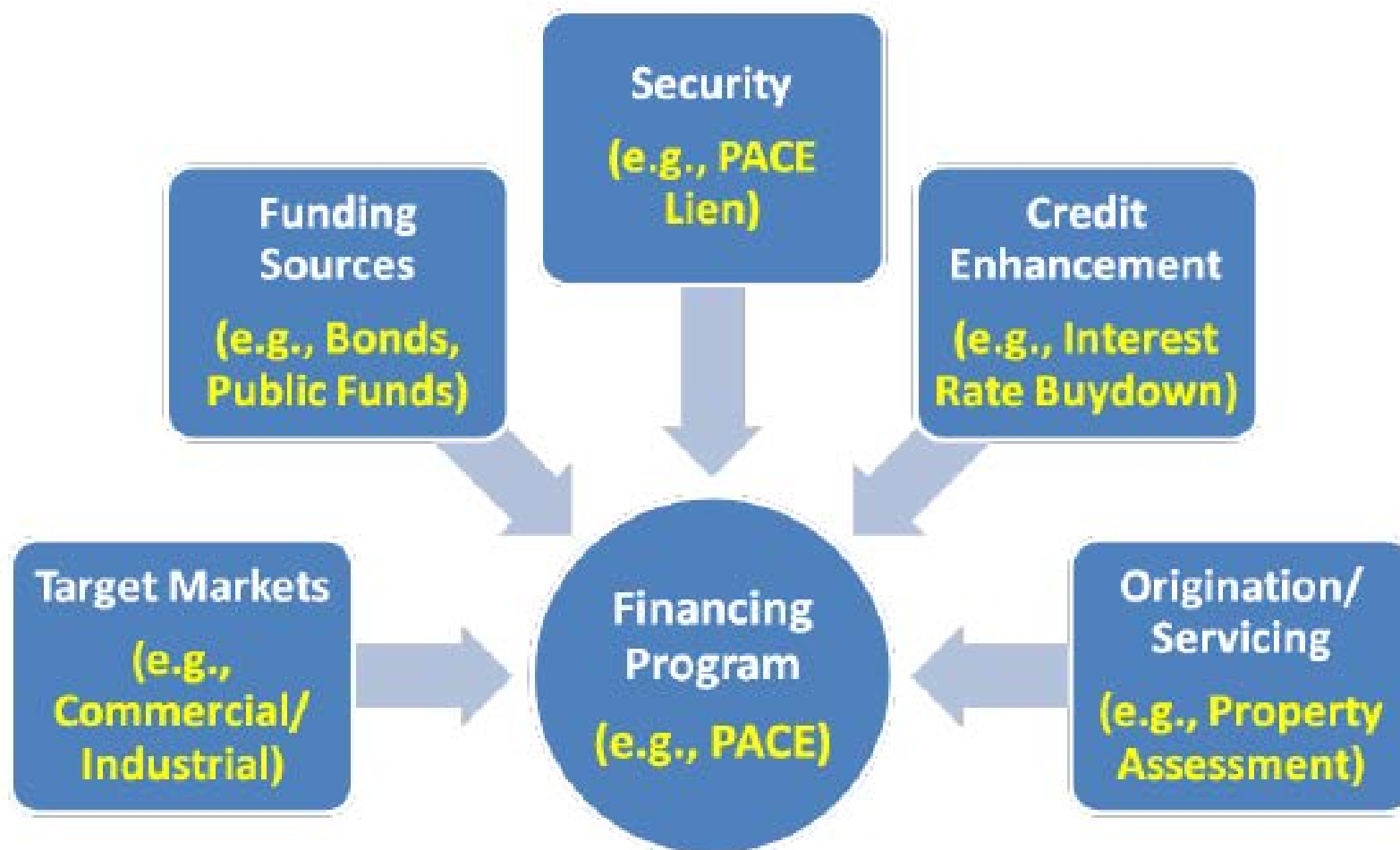
## 3. Establish Broader Eligibility

- Borrowers with excellent credit and collateral already have access to financing; try to move down the credit spectrum

## 4. Link Financing to Effective Clean Energy Programs

- Make it easy for contractors to offer financing, and for borrowers to get preliminary loan approval on the spot

## B. Key Elements of a Financing Program



# 1. Target Markets

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## 1. Residential

- Reactive – urgent need to replace failed equipment
- Proactive – planned improvements

## 2. Commercial and Industrial

- Includes multi-family residential
- Small business is quite different from larger commercial

## 3. Public Sector and Schools

- Taking on debt may require voter approval; non-debt options include leases and power purchase agreements

## 4. Non-Profit Organizations

- Unable to take advantage of tax incentives

## 2. Funding Sources



### 1. Loans

- Local banks, credit unions, & community development financial institutions (CDFIs) may be more responsive than large lenders
  - [www.assetcoalitiontoolkit.org/files/budget/CDFI%20by%20State.pdf](http://www.assetcoalitiontoolkit.org/files/budget/CDFI%20by%20State.pdf)
- Several lenders specialize in clean energy loans: [www.afcfirst.com](http://www.afcfirst.com), [www.energyfinancesolutions.com](http://www.energyfinancesolutions.com), and [www.viewtechfinancialservices.com](http://www.viewtechfinancialservices.com)

### 2. Bonds

- Low cost Qualified Energy Conservation Bonds (QECBs) may be available— [www.naseo.org/resources/financing/qecb/index.html](http://www.naseo.org/resources/financing/qecb/index.html)

### 3. Leases

- Low cost tax-exempt lease-purchase agreements, or municipal leases, are normally not treated as debt

Refer back to Webcast 2, available at -

[www.epa.gov/statelocalclimate/web-podcasts/local-webcasts-by-date.html](http://www.epa.gov/statelocalclimate/web-podcasts/local-webcasts-by-date.html)



# 3. Security

## 1. Unsecured Loans

- Based only on credit score, employment check, etc.
- Best for reactive residential market, where speed is crucial

## 2. Liens

- 1<sup>st</sup> and 2<sup>nd</sup> liens on buildings and real estate; PACE liens; UCC

## 3. Other

- Utility disconnect
- Pledged assets (collateral)
- Personal guarantees

## 4. Credit Enhancement



### 1. Loan Loss Reserves (LLRs)

- Money set aside by a program to cover loan losses incurred by a 3<sup>rd</sup> party lender
- The reserve typically covers 85% of each individual loan loss up to 10% of the total loan pool
- LLRs can encourage a lender to participate in a program, to offer a lower interest rate or longer term, and to expand eligibility
- A \$100,000, 10% LLR can support \$1,000,000 in private lending

### 2. Loan Guarantees

- Similar to LLRs, but the guarantor does not set aside any money

### 3. Other

- Debt service reserves; subordinated co-financing, etc.

# 5. Origination and Servicing



## 1. In-house

- May be feasible for a revolving fund with a few big loans, especially if an agency has experience with similar funds

## 2. 3<sup>rd</sup> Party Administrator

- Used by many programs – e.g., [www.michigansaves.org](http://www.michigansaves.org)

## 3. Financial Institution

- For credit-enhanced private loans, the lender will usually originate and service the loans – e.g., [www.keystonehelp.com](http://www.keystonehelp.com)

## 4. Utility On-Bill Finance

- Utilities often originated OBF loans in the past, but the move now is towards 3<sup>rd</sup> party administrators or financial institutions

## 5. Employer Payroll Deductions – e.g. [www.clintonpresidentialcenter.org/about-the-center/heal](http://www.clintonpresidentialcenter.org/about-the-center/heal)

# C. Financing Options

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- 1. Rebates**
- 2. Revolving Funds**
- 3. Property Assessed Clean Energy (PACE)**
- 4. Credit-Enhanced Private Loans**
- 5. HUD PowerSaver**
- 6. On-Bill Repayment**
- 7. Energy Efficient Mortgages**
- 8. Performance Contracting**
- 9. Power Purchase Agreements and Solar Leasing**

# C. Financing Options...

## 1. Rebates



- **Rebates are not financing, but many agencies that received ARRA funding considered rebates, so it was useful for the EPA Financing Programs Guide to offer a comparison of rebates versus the financing options**
- **Advantages**
  - Relatively quick and easy to implement and for consumers to use
  - Rebates can be effective at encouraging program uptake
  - Broadly applicable across all sectors and measures
- **Disadvantages**
  - Not sustainable
  - Leverage is not as good as for other options

# C. Financing Options...

## 2. Revolving Funds



**Payments on the first loans are used to fund a second round of loans, and then a third, and so on**

- **Advantages**

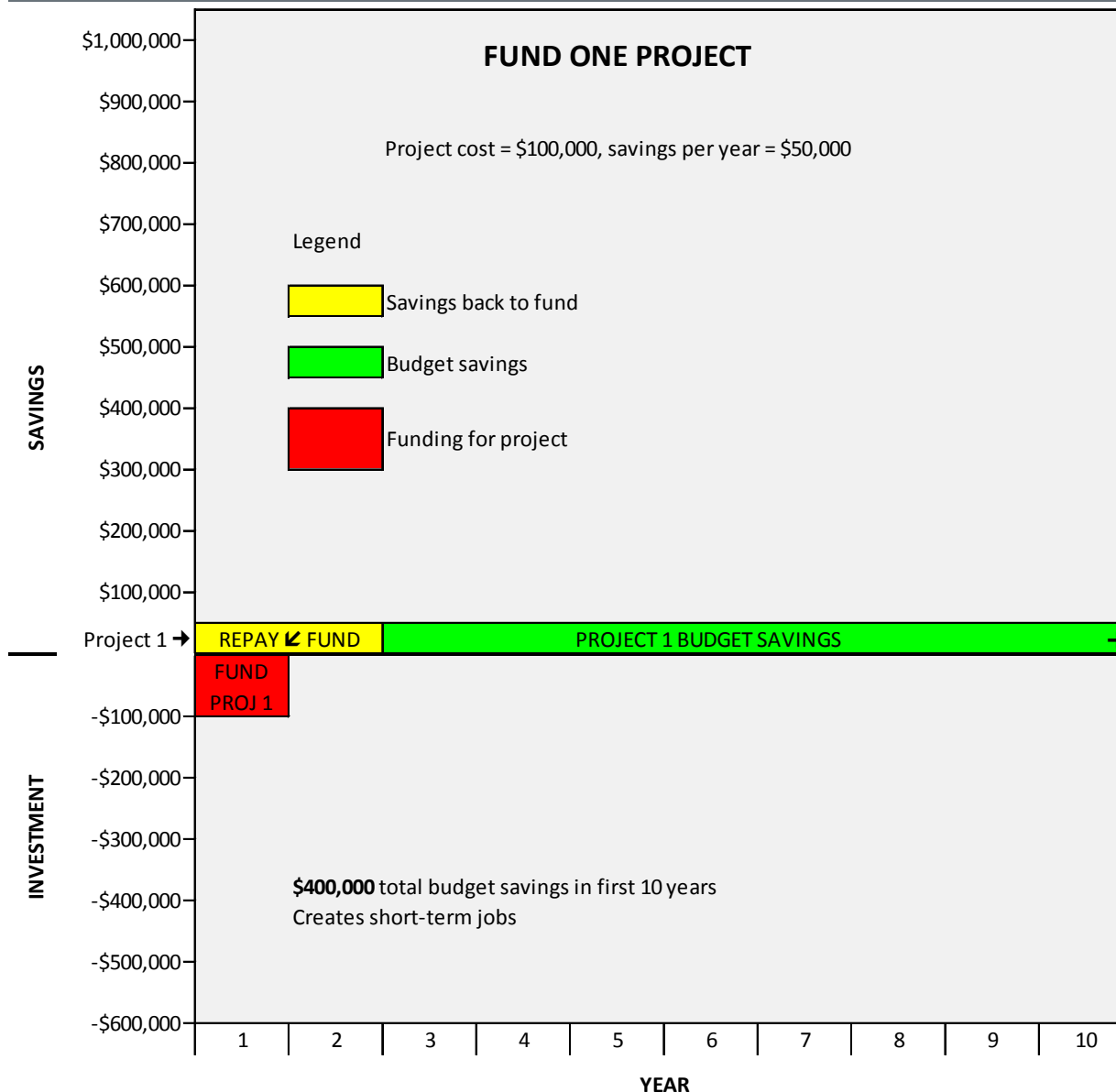
- Faster and simpler to implement than most other options
- Broadly applicable across sectors and measures
- Revolving funds can offer good leverage over time

- **Disadvantages**

- The volume of lending drops after the initial round. If \$1,000,000 is lent in year 1 and the term of the loans is 5 years, then the loan payments coming back in year 2 will total \$200,000 (ignoring any interest, etc.), and that is all that can be revolved in year 2.
- Revolving loans do not normally grow, although they can if used to fund public sector projects, as shown in the next four slides.

# C. Financing Options...

## 2. Revolving Funds... continued

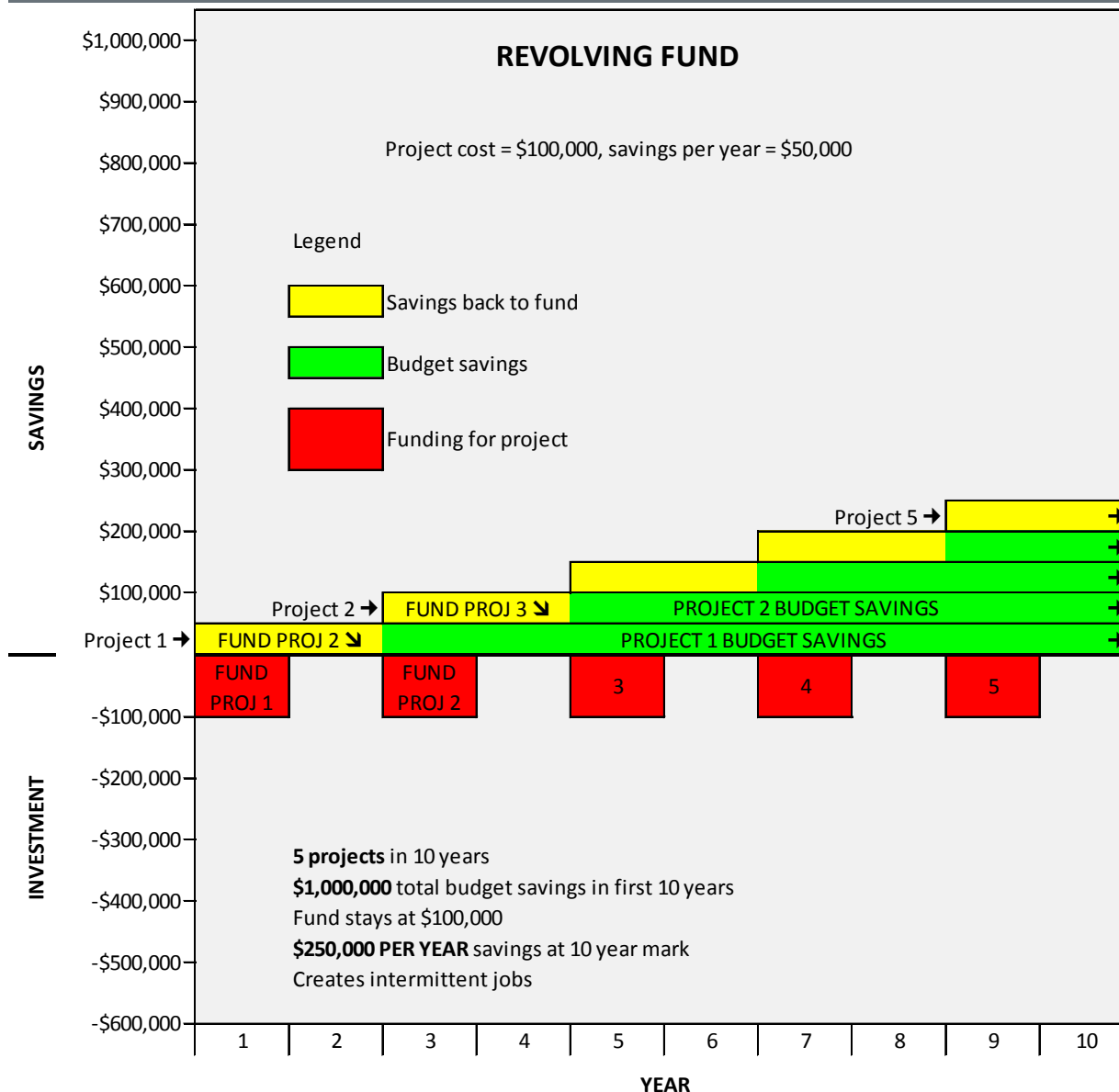


Consider a lighting project that will cost \$100,000 and generate energy savings of \$50,000 /year. While this is a better than average return, it is not unusual for lighting projects to have a 2 to 3-year payback, and using round numbers simplifies this example.

If the project is funded in year 1, the savings from years 1 and 2 can be used to repay the fund. After that, the savings can be used to benefit the sponsoring department's budget or the overall general budget. After repaying the fund, the project will generate \$400,000 of budget savings in the first 10 years.

# C. Financing Options...

## 2. Revolving Funds... continued



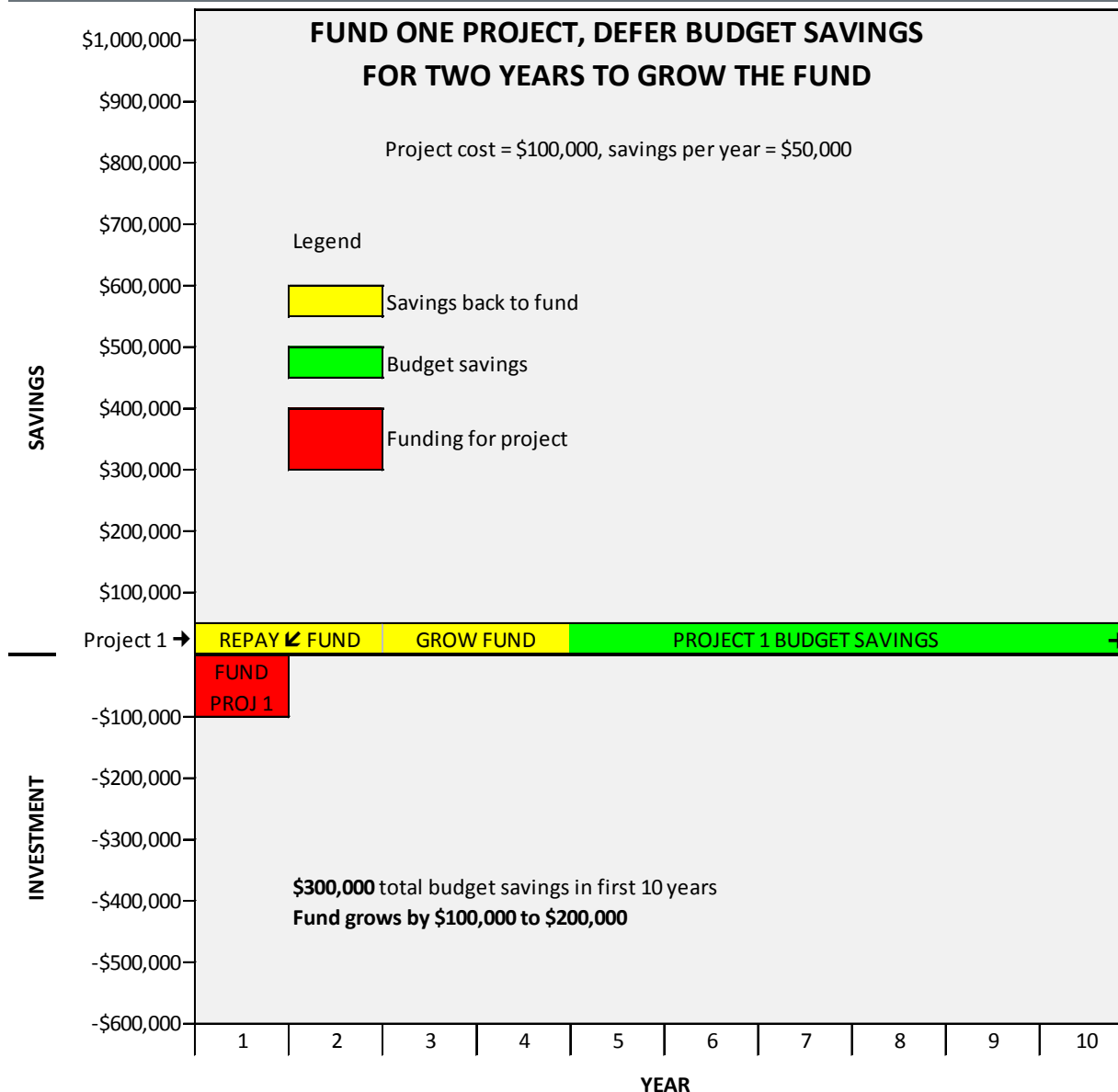
### Revolving the Fund

Now consider what happens if the savings from Project 1 are used to fund a second project. The savings from Project 2 can then be used to fund Project 3, and so on. This repeated funding is what gives revolving funds their name. In this example, the initial \$100,000 investment will generate \$1,000,000 of budget savings in the first 10 years.



# C. Financing Options...

## 2. Revolving Funds... continued



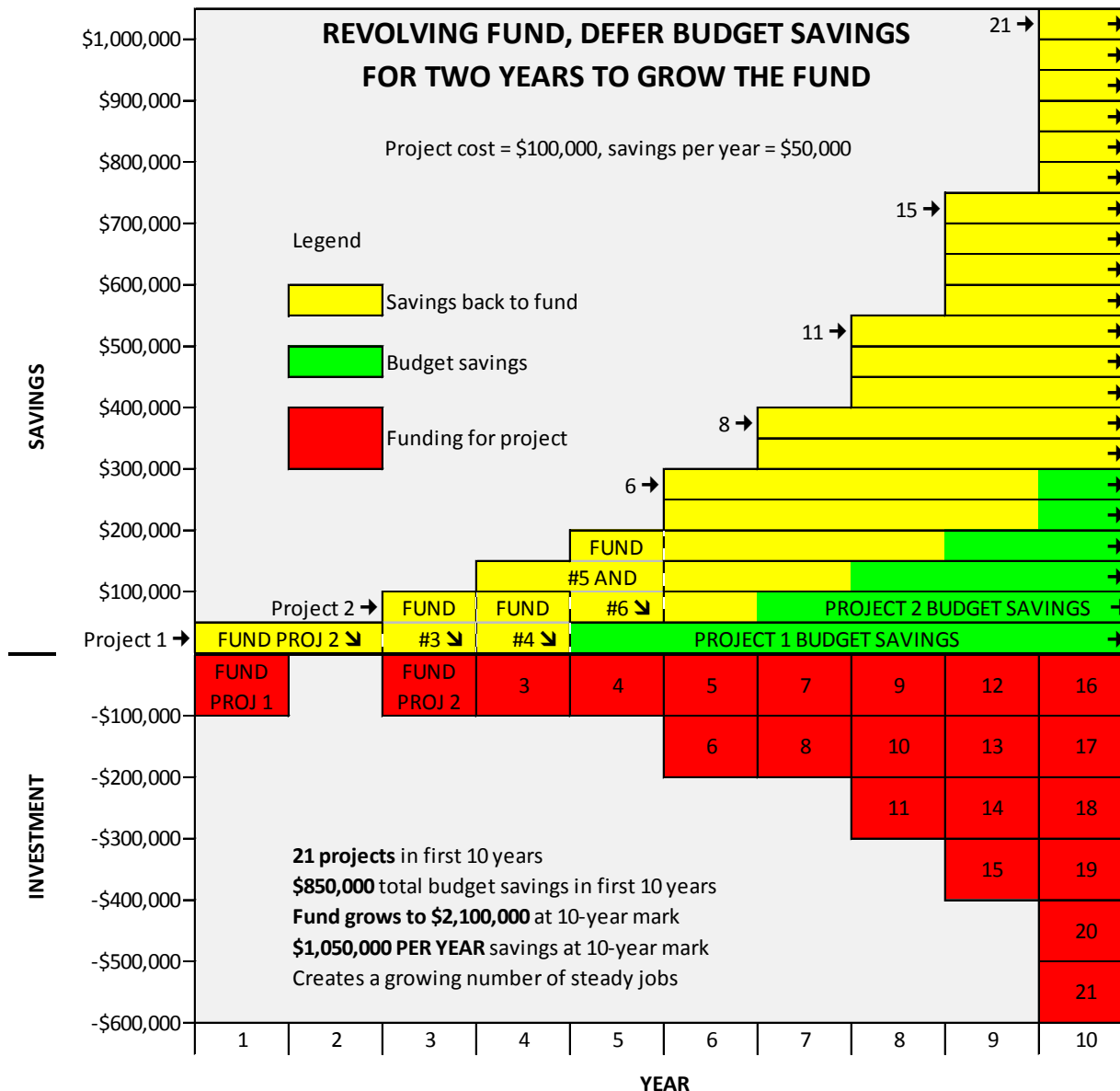
### Growing the Fund

For even better results, the budget savings can be deferred for a time in order to grow the fund. In this example, the savings flow back to the fund for an extra two years after the fund is repaid. With each loan, the fund will grow by \$100,000.

If we now revolve the fund, the results can be impressive.

# C. Financing Options...

## 2. Revolving Funds... continued



### Compound Growth

**21 projects** can be funded from the initial \$100,000 investment in the first 10 years. In year 10, the ongoing savings are at the **\$1,050,000 PER YEAR** mark, the fund is at **\$2,100,000**, and a **growing number of steady jobs** are being created.

Note that this strategy for rapid growth only works for public sector revolving funds. That's because private borrowers would not be willing to defer the savings after repaying the fund. However, given the rapid growth of this fund, it may be possible at some point to split off a separate revolving fund for private sector projects. The private sector fund would not grow, but it could expand the impact of the program to other sectors of the community.

# C. Financing Options...

## 3. Property Assessed Clean Energy (PACE)



**With PACE, a special district pays for upgrades to a property and the owner agrees to a special assessment on their property taxes to pay back the cost**

[www.pacenow.org](http://www.pacenow.org)

- **Advantages**

- PACE liens offer strong security; they are first in line upon default
- Public funds are not required (except perhaps to administer the program); lenders or bond investors typically provide the capital

- **Disadvantages**

- PACE is now a risky option for the residential sector; Fannie Mae effectively shut down most residential programs due to their concerns about PACE liens taking priority over their mortgages
- PACE programs are complex to implement

# C. Financing Options...

## 4. Credit-Enhanced Private Loans



**These programs encourage 3<sup>rd</sup> party lenders to make attractive loans by offering a credit enhancement (e.g., a loan loss reserve) that reduces the lender's risk**

- **Advantages**

- Specialized lenders have off-the-shelf programs: [www.afcfirst.com](http://www.afcfirst.com), [www.energyfinancesolutions.com](http://www.energyfinancesolutions.com), and [www.viewtechfinancialservices.com](http://www.viewtechfinancialservices.com).
- A small loan loss reserve can support a large 3<sup>rd</sup> party loan pool.

- **Disadvantages**

- The specialized lenders do not have the capital to hold the loans; a long-term source of capital (e.g., Treasurer funds, QECBs) is needed to buy the loans. No secondary market is available yet.
- Starting a credit-enhanced program from scratch can be difficult without the help of an experienced partner.

# C. Financing Options...

## 5. HUD PowerSaver



**HUD selected 18 lenders nationwide for a pilot program to make residential loans backed by HUD guarantees**

[http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/housing/sfh/title/ti\\_home](http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/title/ti_home)

- **Advantages**

- No cost to the local government, although marketing and other support may help persuade a lender to operate in your community
- No limit on the growth of the program

- **Disadvantages**

- Persuading a lender to offer PowerSaver in your community may or may not be easy
- HUD has limits on where PowerSaver can be offered, although the guidelines may be somewhat flexible

# C. Financing Options...

## 6. On-Bill Repayment



**A utility or lender offers loans for energy upgrades, and the customer repays the loan through their utility bill**

- **Advantages**

- On-bill repayment (OBR) can address the “split incentive” issue  
[http://www.oregon.gov/ENERGY/LOANS/EEAST/docs/On-Bill\\_Finance\\_for\\_SmallBusinessMarket.pdf](http://www.oregon.gov/ENERGY/LOANS/EEAST/docs/On-Bill_Finance_for_SmallBusinessMarket.pdf)
- Some versions of OBR are not considered debt, so local governments may not have to ballot the question

- **Disadvantages**

- OBR requires the cooperation of the utility, and many have not wanted to “get into the lending business”
- Residential OBR may run into consumer lending regulations, although having the loans issued by a lender may address this

# C. Financing Options...

## 7. Energy Efficient Mortgages



**These mortgages wrap the cost of energy upgrades into a single loan during the purchase or refinance of a home**

- **Advantages**

- Mortgages typically offer the lowest interest rates and longest terms of any standard financing available to homeowners
- Homeowners are comfortable with the mortgage process

- **Disadvantages**

- Only applicable for homeowners who are buying a new house or who have not yet refinanced to take advantage of current low rates
- It may be difficult to find a lender interested in developing an energy efficient mortgage program

# C. Financing Options...

## 8. Performance Contracting



**Performance contractors can usually arrange financing for energy efficient upgrades, and they guarantee the savings will exceed the monthly finance payments**

- **Advantages**

- No cost to local government, other than administering the projects
- Projects can be structured to self-fund the administrative costs - [www.energyservicescoalition.org/espc/tools/practice09/Self-funded\\_ESPC\\_Programs.pdf](http://www.energyservicescoalition.org/espc/tools/practice09/Self-funded_ESPC_Programs.pdf)

- **Disadvantages**

- Performance contracting is applicable to larger projects only (typically \$1 million or more)
- It may be important to have an expert representing your interest



# C. Financing Options...

## 9. Power Purchase Agreements / Solar Leasing



**A project developer pays for and builds a system on the customer's property and the customer either buys the power or leases the system**

- **Advantages**

- No cost to local government, other than administering the projects or encouraging the growth of these models in the private sector
- Projects can be structured to self-fund the administrative costs, as in the Sacramento case history to follow this presentation
- Solar leasing takes advantage of the developer's ability to depreciate the system, which a homeowner cannot do

- **Disadvantages**

- Small business projects may be too small for a PPA
- The details of selling the home or paying off the lease are crucial

# D. More Information on Financing



## EPA ENERGY STAR tools:

1. **Portfolio Manager: to prioritize projects and measure progress -**  
[www.energystar.gov/index.cfm?c=evaluate\\_performance.bus\\_portfoliomanager](http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager)
2. **Target Finder: to set energy targets during new building design**  
- [www.energystar.gov/index.cfm?c=new\\_bldg\\_design.bus\\_target\\_finder](http://www.energystar.gov/index.cfm?c=new_bldg_design.bus_target_finder)
3. **Building Upgrade Value Calculator -**  
[www.energystar.gov/index.cfm?c=comm\\_real\\_estate.building\\_upgrade\\_value\\_calculator](http://www.energystar.gov/index.cfm?c=comm_real_estate.building_upgrade_value_calculator)
4. **Financial Calculator: to show the impact on profits, etc. -**  
[www.energystar.gov/index.cfm?c=assess\\_value.financial\\_tools](http://www.energystar.gov/index.cfm?c=assess_value.financial_tools)
5. **Cash Flow Opportunity Calculator: to see the cost of delay -**  
[www.energystar.gov/ia/business/downloads/A\\_Look\\_Inside\\_the\\_Cash\\_Flow\\_Opportunity\\_Calculator\\_FINAL.pdf?61b9-4fca](http://www.energystar.gov/ia/business/downloads/A_Look_Inside_the_Cash_Flow_Opportunity_Calculator_FINAL.pdf?61b9-4fca)

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# More Information on Financing...

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## Other resources:

- 6. EPA Clean Energy Financing Programs – the Decision Guide includes many useful Resources -**  
<http://epa.gov/statelocalclimate/state/activities/financing.html>
- 7. EPA ENERGY STAR – Financing Guidebook for Energy Efficiency Program Sponsors -**  
[www.energystar.gov/ia/home\\_improvement/downloads/FinancingGuidebook.pdf](http://www.energystar.gov/ia/home_improvement/downloads/FinancingGuidebook.pdf)
- 8. EPA State and Local Climate and Energy Program – Energy Efficiency -** [www.epa.gov/statelocalclimate/state/topics/energy-efficiency.html](http://www.epa.gov/statelocalclimate/state/topics/energy-efficiency.html)
- 9. EPA Combined Heat and Power Partnership – Funding Database -** [www.epa.gov/chp/funding/financial.html](http://www.epa.gov/chp/funding/financial.html)
- 10. EPA Resources for Funding LBE Programs -**  
[www.epa.gov/statelocalclimate/documents/pdf/epa\\_lbe\\_appendixd.pdf](http://www.epa.gov/statelocalclimate/documents/pdf/epa_lbe_appendixd.pdf)

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# More Information on Financing...

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- 11. EPA Climate Showcase Community case histories -**  
[www.epa.gov/statelocalclimate/local/showcase/](http://www.epa.gov/statelocalclimate/local/showcase/)
- 12. DOE Solution Center – Financing Solutions and Guidebook -**  
<http://www1.eere.energy.gov/wip/solutioncenter/financialproducts/default.html>
- 13. National Governors Association Center for Best Practices – State Clean Energy Financing Guidebook -**  
[www.nga.org/files/live/sites/NGA/files/pdf/1101CLEANENERGYFINANCING.PDF](http://www.nga.org/files/live/sites/NGA/files/pdf/1101CLEANENERGYFINANCING.PDF)
- 14. Green Building Finance Consortium – Resources -**  
[www.greenbuildingfc.com/Home/ResearchLibrary.aspx](http://www.greenbuildingfc.com/Home/ResearchLibrary.aspx)
- 15. ACEEE American Council for an Energy Efficient Economy – Publications and Resources -**  
[www.aceee.org/publications?pubtype=Research+Report](http://www.aceee.org/publications?pubtype=Research+Report)

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# More Information on Financing...

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- 16. ICLEI Local Governments for Sustainability USA – Resources -**  
[www.icleiusa.org/action-center](http://www.icleiusa.org/action-center)
- 17. ASE Alliance to Save Energy – Resources -** <http://ase.org/resources>
- 18. DOE National Action Plan for Energy Efficiency – Customer Incentives for Energy Efficiency Through Program Offerings -**  
[www.epa.gov/cleanenergy/documents/suca/program\\_incentives.pdf](http://www.epa.gov/cleanenergy/documents/suca/program_incentives.pdf)
- 19. SEE Action Network**  
[http://www1.eere.energy.gov/seeaction/financing\\_solutions.html](http://www1.eere.energy.gov/seeaction/financing_solutions.html)

# Contact Information

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